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EXAMINER

DIVINE, LUCAS

ART UNIT PAPER NUMBER

2624

DATE MAILED: 10/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/823,457

Applicant(s)

LEVIN ET AL.

Examiner

Lucas Divine

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-13 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-13 and 19-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Claims 5 – 13 and 19 – 22 are pending.
2. Claim objection withdrawn.

Response to Arguments

3. Applicant's arguments, see remarks, filed 7/15/05, with respect to 112 (1) have been fully considered and are persuasive. The § 112 (1) rejections of claims 1-4, 8-13, 16, and 19-22 have been withdrawn.

4. Applicant's arguments, see remarks, filed 7/15/05, with respect to the rejection(s) of claim(s) 5, 11, and 19 under 102 and 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Takahagi.

Examiner agrees that the previous prior art cited does not teach only performing one scan to complete the tasks of scanning in order to detect original size and only using the scan data of one scan for printing as well.

However, Takahagi et al. (US 6621994) teaches a prescanless mode where only one scan is performed, and that first scan data is used for size detection, printing and all other tasks (col. 7 line 7 – col. 9 line 34).

It would have been obvious to one of ordinary skill in the art to not use a prescan and only have one full scan in scanning, image processing, and printing systems as taught by

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Takahagi. The motivation for doing so would have been to speed up the time per original (Takahagi col. 9 lines 11-15).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gusmano (US 5796877) in view of Takahagi.

Regarding claim 5, Gusmano teaches **a method of producing a copy of an original scaled to fit a selected copy medium comprising the steps of:**

(a) scanning said original at a full resolution to convert said original to a plurality of scan data representing a plurality of pixels of said original (Fig. 1 scanner 23, col. 2 lines 65-67, wherein the scanner scans an original to produce image scan data);

(b) calculating at least one of a magnification and a reduction of said original to scale a copy of said original to fit at least one of a length and a width of said copy medium (Fig. 2 step S11, col. 3 lines 17-20, wherein a scaling factor is computed to determine the size the original would be to fit on the output medium, further shown in Figs. 3 and 4); **and**

(c) printing said copy from said scan data at one of said calculated magnification and reduction (col. 3 lines 21-25).

Gusmano does not specifically teach only performing one scan to complete the tasks of scanning in order to detect original size and only using the scan data of one scan for printing as well.

However, Takahagi et al. (US 6621994) teaches a prescanless mode where only one scan is performed, and that first scan data is used for size detection, printing and all other tasks (col. 7 line 7 – col. 9 line 34).

It would have been obvious to one of ordinary skill in the art to not use a prescan and only have one full scan in scanning, image processing, and printing systems as taught by Takahagi. The motivation for doing so would have been to speed up the time per original (Takahagi col. 9 lines 11-15).

6. Claims 6 and 7 rejected under 35 U.S.C. 103(a) as being unpatentable over Gusmano and Takahagi as applied to claim 5 above, and further in view of Furuoya (5805294).

Regarding claim 6, which depends from claim 5, Gusmano and Takahagi teaches all of the limitations of parent claim 5 including **(d) calculating a scale that does not exceed at least one of length and said width of said copy medium** (Gusmano Fig. 2 step S11, col. 3 lines 17-20, wherein a scaling factor is computed to determine the size the original would be to fit on the output medium, further shown in Figs. 3 and 4).

While Gusmano teaches detecting the size of an input document (col. 3 line 40), the combination does not specifically teach counting the lines between first and second detected lines for this detection.

Furuoya teaches:

(b) identifying a first scan line corresponding to a first boundary of said original (counting of the lines implies identifying the lines to count);

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(c) identifying a second scan line corresponding to a second boundary of said original image (counting of the lines implies identifying the lines to count); **and**

(d) determining a number of scan lines intervening between said first and said second scan lines (Fig. 4 line counter 23₂, col. 3 lines 60-61, wherein the lines are counted to determine document size).

It would have been obvious to one of ordinary skill in the art to detect document size, as in Gusmano for detecting the size of the image with the method of Furuoya, namely detecting the length of a document by counting the scan lines as well known to those of ordinary skill in the art. The motivation for doing so would have been to provide more correct document size calculations (col. 2 lines 4-5, wherein the method of Furuoya provides for correct detection of positions of edges).

Regarding claim 7, which depends from claim 6 as it depends from claim 5, the pixel counter 23₁ in Fig. 4 shows the ability to detect and count pixels in a line, thus teaching **identifying a line of said scan data comprising a scan datum corresponding to a pixel of said original**.

7. Claims 8 – 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gusmano, Takahagi, and Son.

Regarding claims 8 and 9, which depends from claim 5, while Gusmano teaches detecting the size of an input document (col. 3 line 40), the combination does not specifically teach using pixel boundary locating for this detection.

Son teaches:

(a) locating a first boundary datum (claim 9 specifies pixel) of said original in a line of scanned data (pixels) (col. 5 line 37 teaches working with a group of successive pixels, thus implying detecting pixels);

(b) locating a last boundary datum (claim 9 specifies pixel) of said original in a line of scanned data (pixels) (col. 5 line 37 teaches working with a group of successive pixels, thus implying detecting pixels);

(c) repeating steps (a) and (b) for another line of scan data (Fig. 2 step 108, col. 6 line 58, wherein the detection process is repeated for a plurality of lines);

(d) locating a first boundary of said original from said location of said first detected pixel (Fig. 2 step 104, wherein an edge is located from the location of pixels in the scan line);

(e) locating a second boundary of said original from said location of said another detected pixel (Fig. 2 step 112 wherein another edge is found from the location of pixels in the scan line); and

(f) calculating a scale of a distance between said first and said second boundary (Fig. 2 step 118 shows the left and right edge coordinates and col. 6 line 41 teaches summing the pixels in a line which is the distance between the edges).

It would have been obvious to one of ordinary skill in the art to calculate the size of an image by the method of Son in the image size detecting step of Gusmano. The motivations for doing so would have been to save memory space by providing proper clipping to only save what is needed in the memory (Son col. 2 lines 3-4), to provide a more robust edge detection algorithm (Son col. 6 line 48), and to perform size detection without the use of extra hardware

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because the edge detection is completed not by hardware units but by software steps in controller/processor 50 as shown in Fig. 3 of Son.

Regarding claim 10, which depends from claim 5, which depends from claim 5, Gusmano teaches all of the limitations of parent claim 5 including **(f) calculating at least one of a magnification and a reduction to scale said dimension of said original image to fit at least one of said length and said width of said copy medium** (Fig. 2 step S11, col. 3 lines 17-20, wherein a scaling factor is computed to determine the size the original would be to fit on the output medium, further shown in Figs. 3 and 4).

While Gusmano teaches detecting the size of an input document (col. 3 line 40), Gusmano does not specifically teach using pixel boundary locating for this detection.

Son teaches:

(a) identifying a plurality of said scan data corresponding to a line of scanned pixels (col. 5 line 10 teaches processing of a line of pixels, thus having been identified);

(b) locating a detected pixel of said original in a line of scanned pixels (col. 5 line 37 teaches working with a group of successive pixels, thus implying detecting pixels);

(c) repeating steps (a) and (b) for another line of scan data (Fig. 2 step 108, col. 6 line 58, wherein the detection process is repeated for a plurality of lines);

(d) locating a first boundary of said original from said location of at least one of said detected pixels of at least one line of scanned pixels (Fig. 2 step 104, wherein an edge is located from the location of pixels in the scan line); **and**

(e) calculating a dimension of said original image from said location of said boundary (Fig. 2 step 118 shows the left and right edge coordinates and col. 6 line 41 teaches summing the pixels in a line which is the distance dimension between the edges).

It would have been obvious to one of ordinary skill in the art to calculate the size of an image by the method of Son in the image size detecting step of Gusmano. The motivations for doing so would have been to save memory space by providing proper clipping to only save what is needed in the memory (Son col. 2 lines 3-4), to provide a more robust edge detection algorithm (Son col. 6 line 48), and to perform size detection without the use of extra hardware because the edge detection is completed not by hardware units but by software steps in controller/processor 50 as shown in Fig. 3 of Son.

Regarding claim 11, all of the method steps of claim 11 are the same method steps as claimed in claim 10 as it depends from claim 5. Therefore, claim 11 is rejected for the same reasons as stated above in the rejections of 5 and 10.

Regarding claim 12, which depends from claim 11, Gusmano further teaches the steps of:

(a) storing said scan data (the bottom of col. 2 to the top of col. 3 teach the storing of scanned data into memory); and

(b) printing said copy from said stored scan data (col. 3 line 4 discusses the microprocessor retrieving scan data from memory and line 25 teaches the final printing of said stored scan data).

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Son, Takahagi, and Gusmano as applied to claim 11 above, and further in view of Furuoya.

Regarding claim 13, which depends from claim 19, while the combination of Gusmano, Takahagi, and Son teach the scanning, size detection, and auto-size adjusting of an original, the combination does not specifically teach calculating the number of scan lines.

Furuoya teaches a scanning system for document size detection including calculating the number of scan lines (Fig. 4 line counter 23₂, col. 3 lines 60-61, wherein the lines are counted to determine document size) as including in **the steps of:**

(a) identifying a first scan line corresponding to a first boundary of said original (counting of the lines implies identifying the lines to count and the first boundary is identified as the reset location at the end of a page scan; see col. 3 line 62 where the document line counter is reset when the end is reached);

(b) identifying a second scan line corresponding to a second boundary of said original image (counting of the lines implies identifying the lines to count and the second boundary is identified in order to reset to the start location at the end of a page scan; see col. 3 line 62 where the document line counter is reset when the end is reached); **and**

(c) determining a number of scan lines intervening between said first and said second scan lines (Fig. 4 line counter 23₂, col. 3 lines 60-61, wherein the lines are counted to determine document size).

It would have been obvious to one of ordinary skill in the art to detect document length, as in Son with the method of Furuoya, namely detecting the length of a document by counting the scan lines as well known to those of ordinary skill in the art. The motivation for doing so would have been to provide more correct document size calculations (col. 2 lines 4-5, wherein the method of Furuoya provides for correct detection of positions of edges).

9. Claims 19, 20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rourke (US 5191429), Takahagi, and Son.

Regarding claim 19, Rourke teaches a **method of producing a plurality of copies** (Fig. 9) **of an original 160 on a copy medium 108 comprising the steps of:**

(a) scanning to convert a line of pixels of said original to scan data (scanning completed by scanner 6, wherein the image is converted to pixel scan data, col. 3 lines 6-16);

(e) calculating a size of said original image (the image size is calculated by the system as shown in Fig. 10 in the image size box as well as implied by the cropping done to the image after knowing its size within the platen, discussed in col. 6 lines 35-52);

(f) calculating a multiple of said size that will not exceed a dimension of a selected copy medium (shown as the 7th step of Fig. 14 and taught in col. 7 lines 60-63); **and**

(g) printing from said scan data a plurality of copies of said original equal to said multiple (shown as the 9th step of Fig. 14 as printed by printer 8).

While Rourke teaches a multi-function scanning/image processing/printing system for the scanning, adjusting, and printing of documents, Rourke fails to specifically teach utilizing pixel information for determining the original size.

Son teaches an edge detection system for use in multi-function office products (col. 2 lines 16-18) including utilizing pixel information for determining the original size. Son's size determining includes the following steps:

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(b) detecting a pixel of said original in said line of scanned pixels (col. 4 lines 16-17, wherein scanned pixel data is input into the detection scheme and pixels are implicitly detected in pixel data);

(c) repeating steps (a) and (b) for a plurality of lines of a full resolution scan of said original (Fig. 2 step 108, col. 6 line 58, wherein the detection process is repeated for a plurality of lines);

(d) locating a boundary of said original from at least one of said detected pixels of at least one of said lines of scanned pixels (Fig. 2 step 104, col. 2 lines 36-42 and col. 6 lines 1-8, wherein the step of locating an edge 'boundary' is completed by pixel analysis of the line of scanned pixels); **and**

(e) calculating a size of said original image from said location of said boundary (col. 6 lines 62-64, wherein the edge pairs are found and an image size can be calculated).

It would have been obvious to one of ordinary skill in the art to calculate the size of an image by the method of Son in the image size detecting step of Rourke. The motivations for doing so would have been to save memory space by providing proper clipping to only save what is needed in the memory (Son col. 2 lines 3-4), to provide a more robust edge detection algorithm (Son col. 6 line 48), and to perform size detection without the use of extra hardware because the edge detection is completed not by hardware units but by software steps in controller/processor 50 as shown in Fig. 3 of Son.

The combination of Rourke and Son does not specifically teach only performing one scan to complete the tasks of scanning in order to detect original size and only using the scan data of one scan for printing as well.

However, Takahagi et al. (US 6621994) teaches a prescanless mode where only one scan is performed, and that first scan data is used for size detection, printing and all other tasks (col. 7 line 7 – col. 9 line 34).

It would have been obvious to one of ordinary skill in the art to not use a prescan and only have one full scan in scanning, image processing, and printing systems as taught by Takahagi. The motivation for doing so would have been to speed up the time per original (Takahagi col. 9 lines 11-15).

Regarding claim 20, which depends from claim 19, Rourke further teaches the steps of:

(a) storing said scan data (Fig. 2, wherein the scan data enters controller 7 and is manipulated for printing and stored in disk 56; col. 4 lines 53-56); **and**

(b) printing said copy from said stored scan data (printed from printer 8 as shown in the 9th step of Fig. 14).

Regarding claim 22, which depends from claim 19, Son further teaches that **the step calculating a size of said original image from said location of said boundary comprises the steps of:**

(a) detecting a first pixel of said original in a line of scanned pixels (col. 5 line 37 teaches working with a group of successive pixels, thus implying detecting pixels);

(b) detecting another pixel of said original in a line of scanned pixels (col. 5 line 37 teaches working with a group of successive pixels, thus implying detecting another pixel other than the first);

(c) locating a first boundary of said original from said location of said first detected pixel (Fig. 2 step 104, wherein an edge is located from the location of pixels in the scan line);

(d) locating another boundary of said original from said location of said another detected pixel (Fig. 2 step 112 wherein another edge is found from the location of pixels in the scan line); and

(e) calculating a distance separating said first boundary and said another boundary (Fig. 2 step 118 shows the left and right edge coordinates and col. 6 line 41 teaches summing the pixels in a line which is the distance between the edges).

10. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Son, Takahagi, and Rourke as applied to claim 19 above, and further in view of Furuoya (US 5805294).

Regarding claim 21, which depends from claim 19, while the combination of Rourke, Takahagi, and Son teach the scanning, size detection, and multiple printing of an original, the combination does not specifically teach calculating the number of scan lines.

Furuoya teaches a scanning system for document size detection including calculating the number of scan lines (Fig. 4 line counter 23₂, col. 3 lines 60-61, wherein the lines are counted to determine document size) as including in **the steps of:**

(a) identifying at least two scan lines including a detected pixel of said original (counting of the lines implies identifying the lines to count);

(b) locating a first boundary and a second boundary of said original according to a relationship of said detected pixels (col. 3 line 62 teaches the reset of the counter at the final boundary of the page, which also implies that the counter starts counting when the first boundary – beginning of the page – is located); and

(c) calculating a number of scan lines intervening between said first and said boundaries (Fig. 4 line counter 23₂, col. 3 lines 60-61, wherein the lines are counted to determine document size).

It would have been obvious to one of ordinary skill in the art to detect document length, as in Son with the method of Furuoya, namely detecting the length of a document by counting the scan lines as well known to those of ordinary skill in the art. The motivation for doing so would have been to provide more correct document size calculations (col. 2 lines 4-5, wherein the method of Furuoya provides for correct detection of positions of edges).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Motoyama et al. (US 5058038) teaches method to connect wide size scanner to laser printer engine for copying with size reduction.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucas Divine whose telephone number is 571-272-7432. The examiner can normally be reached on Monday - Friday, 7:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lucas Divine
Examiner
Art Unit 2624

ljd


KING Y. POON
PRIMARY EXAMINER